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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
REDDIG, PETER J	
ART UNIT	**PAPER NUMBER**
1642	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,435	ZERIAL ET AL.	
	Examiner	Art Unit	
	Peter J. Reddig	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-8* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-3, drawn to an method of screening for an anti-proliferative drug comprising the steps of: (a) contacting cells of a primary cell culture or of an established cell line with a candidate substance, (b) subsequently or concomitantly with contacting of the candidate substance, contacting the cells with a growth factor; (c) processing the cells for immunofluorescence staining to detect APPL1 and APPL2 using an anti-APPL1 and/or 2 antibody, or alternatively using GFP-tagged APPL proteins stably or transiently expressed by the cells via transfection; (d) assessing the degree of colocalisation of APPL1 and/or 2 and the growth factor, the solubilisation of APPL1 and/or 2 and their translocation to the nucleus; (e) repeating steps (b) to (d) with cells not previously treated with the candidate substance; and (f) comparing the degree of colocalisation of APPL1 and/or 2 and the growth factor, the solubilisation of APPL1 and/or 2 and their translocation to the nucleus between the cells not previously treated with the candidate substance (untreated cells) and cells treated with the candidate substance (treated cells), wherein an altered degree of colocalisation of APPL1 and/or 2 and the growth factor, an altered solubilisation of APPL1 and/or 2 and/or their altered translocation to the nucleus in the treated vs. the untreated cells identifies the candidate substance as an anti-proliferative drug.

Group 2, claim(s) 4, drawn to an anti-proliferative drug identified and/or isolated according to the method of claim 1.

Group 3, claim(s) 5 and 6, drawn to a method of treating a cancer/tumour disease comprising contacting a subject with a cancer/tumour disease with an anti-proliferative drug identified and/or isolated according to the method of claim 1.

Group 4, claim(s) 7 and 8, drawn to an method of screening for an anti-proliferative drug, comprising the steps of: (a) isolating hermosomes from cells of a cell culture, in particular by density gradient centrifugation; (b) restoring their functionality by contacting the hermesomes with cytosol, an ATP-regenerating system and either or both of GTP and GDP; (c) modulating

their function in cell proliferation and/or apoptosis by contacting with a candidate substance; and (d) comparing the hermesomes isolated from cells previously treated with or without the growth factor (stimulated or non-stimulated cells), with or without the candidate substance (treated or untreated cells) or exposed to a candidate substance after isolation.

The inventions listed as Groups 1-4 do not relate to a single general inventive concept under PCT Rule 13.1 because unity of invention between different categories of inventions will only be found to exist if specific combinations of inventions are present. Those combinations include:

A) A product and a special process of manufacture of said product.

B) A product and a process of use of said product.

C) A product, a special process of manufacture of said product, and a process of use of said product.

D) A process and an apparatus specially designed to carry out said process.

E) A product, a special process of manufacture of said product, and an apparatus specially designed to carry out said process.

The inventions of groups 1-4 are drawn to multiple methods as well as a product not made by or used by all of the methods. Allowed combinations do not include multiple methods as well as a product not made by or used by all of the methods, as claimed in the instant application. Hence, only one product and one process of use of said product relate to a single general inventive concept. Since multiple products and multiple methods with different special technical features are claimed, the first invention of the category first mentioned in the claims of the application will be considered as the main invention in the claims, see PCT article 17(3) (a) and 1.476 (c), 37 C.F.R. 1.475(d).

Ggroup 1 is drawn to a method.

Groups 2-4 are drawn to a product made by claim 1 and multiple methods.

Accordingly, Groups 1-4 are not so linked as to form a single general inventive concept and the finding of lack of unity is proper.

Species Elections for Group 1

A. Claim 1 is generic to the following disclosed patentably distinct species of growth factor:

epidermal growth factor (EGF) family, a fibroblast growth factor (FGF), a transforming growth factor β (TGFs-β), a transforming growth factor-α (TGF- α), an insulin-like growth factor, a tumour necrosis factor ,a vascular endothelial growth factor (VEGF), a nerve growth factor (NGF), a hepatocyte growth factor/scatter factor, pleiotrophin, oncostatin M (OSM), an angiogenic factor which is angiogenin, an angiogenic factor which is not angiogenin, an ephrin, an interleukin (IL) an interferon (INF), a colony stimulating factor (CSF), erythropoietin (EPO), or a platelet-derived growth factor (PDGF).

If Applicants elect a tumor necrosis factor, then Applicants must elect from the species group B.

B. Claim 1 is generic to the following disclosed patentably distinct species of tumor necrosis factor:

1.TNF-α 2.TNF-β

If Applicants elect an interleukin, then Applicants must elect from the species group C.

C. Claim 1 is generic to the following disclosed patentably distinct species of interleukin from IL1-13.

If Applicants elect interferon, then Applicants must elect from the species group D.

D. Claim 1 is generic to the following disclosed patentably distinct species of interferon:

1. IFN-α 2. IFN-β 3. IFN-γ

Species Elections for Group 2

A. Claim 4 is generic to the following disclosed patentably distinct species of growth factor:

epidermal growth factor (EGF) family, a fibroblast growth factor (FGF), a transforming growth factor β (TGFs-β), a transforming growth factor-α (TGF- α), an insulin-like growth factor, a tumour necrosis factor ,a vascular endothelial growth factor (VEGF), a nerve growth factor (NGF), a hepatocyte growth factor/scatter factor, pleiotrophin, oncostatin M (OSM), an angiogenic factor which is angiogenin, an angiogenic factor which is not angiogenin, an ephrin, an interleukin (IL) an interferon (INF), a colony stimulating factor (CSF), erythropoietin (EPO), or a platelet-derived growth factor (PDGF).

If Applicants elect a tumor necrosis factor, then Applicants must elect from the species group B.

B. Claim 4 is generic to the following disclosed patentably distinct species of tumor necrosis factor:

1.TNF-α 2.TNF-β

If Applicants elect an interleukin, then Applicants must elect from the species group C.

C. Claim 4 is generic to the following disclosed patentably distinct species of interleukin from IL1-13.

If Applicants elect interferon, then Applicants must elect from the species group D.

D. Claim 4 is generic to the following disclosed patentably distinct species of interferon:

1. IFN-α 2. IFN-β 3. IFN-γ

Species Elections for Group 3

A. Claim 5 is generic to the following disclosed patentably distinct species of growth factor:

epidermal growth factor (EGF) family, a fibroblast growth factor (FGF), a transforming growth factor β (TGFs-β), a transforming growth factor-α (TGF- α), an insulin-like growth factor, a tumour necrosis factor ,a vascular endothelial growth factor (VEGF), a nerve·growth factor (NGF), a hepatocyte growth factor/scatter factor, pleiotrophin, oncostatin M (OSM), an angiogenic factor which is angiogenin, an angiogenic factor which is not angiogenin, an ephrin, an interleukin (IL) an interferon (INF), a colony stimulating factor (CSF), erythropoietin (EPO), or a platelet-derived growth factor (PDGF).

If Applicants elect a tumor necrosis factor, then Applicants must elect from the species group B.

B. Claim 5 is generic to the following disclosed patentably distinct species of tumor necrosis factor:

1.TNF-α 2.TNF-β

If Applicants elect an interleukin, then Applicants must elect from the species group C.

C. Claim 5 is generic to the following disclosed patentably distinct species of interleukin from IL1-13.

If Applicants elect interferon, then Applicants must elect from the species group D.

D. Claim 5 is generic to the following disclosed patentably distinct species of interferon:

1. IFN-α 2. IFN-β 3. IFN-γ

In accordance with the decisions in *In re Harnisch*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984), restriction of a Markush group is proper where the compounds within the group either (1) do not share a common utility, or (2) do not share a substantial structural feature disclosed as being essential to that utility. In addition, a Markush group may encompass a plurality of independent and distinct inventions where two or more members are so unrelated and diverse that a prior art reference anticipating the claim with respect to one of the members would not render the other member(s) obvious under 35 USC 103. Since the decisions in *In re Weber*, 198 USPQ 328 (CCPA 1978) and *In re Hass*, 198 USPQ 334 (CCPA 1978), it is proper for the Office to refuse to examine that which applicants regard as their invention, if the subject matter in a claim lacks unity of invention, see MPEP 803.02.

The species are independent or distinct because as disclosed the different species have mutually exclusive characteristics for each identified species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the

examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double

patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Reddig whose telephone number is (571) 272-9031. The examiner can normally be reached on M-F 8:30 a.m.-5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached at (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter J. Reddig
Examiner
Art Unit 1642

SUSAN UNGAR, PH.D
PRIMARY EXAMINER

PJR